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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

August 26, 2014

Wayne McCandless  
Nielson Construction  
P.O. Box 620  
Huntington, Utah 84528

Subject: Initial Review of Notice of Intention to Commence Large Mining Operations, Nielson Construction, Emma Park Limestone Pit, M/049/0093, Utah County, Utah

Dear Mr. McCandless:

The Division of Oil, Gas and Mining has completed a review of the referenced Notice of Intention to Commence Large Mining Operations for the Emma Park Limestone Pit, which was received on July 7, 2014. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages for the original mining notice using redline and strikeout text. After the notice is determined technically complete, the Division will ask that you submit two clean copies of the complete and corrected plan. Upon final approval of the permit, both copies will be stamped "approved" and one will be returned for your records.

The Division will suspend further review of the Notice of Intention until receiving your response to this letter. Please contact the lead inspector, April Abate, at 801-538-5214 or me at 801-538-5261 if you have questions or would like to schedule a meeting to discuss the review. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker  
Minerals Program Manager

PBB: aa: eb  
Attachment: Review  
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**INITIAL REVIEW OF NOTICE OF INTENTION  
TO COMMENCE LARGE MINING OPERATIONS**

Nielson Construction  
Emma Park Limestone Pit  
M/49/0093  
August 25, 2014

**General Comments:**

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1		The application was submitted on an old form which has not been used in about three years. This form includes guidelines that should not be a part of the application. Please use the outline from the Division's website at the following link: <a href="http://linux1.ogm.utah.gov/WebStuff/wwwroot/minerals/permitt_forms.html">http://linux1.ogm.utah.gov/WebStuff/wwwroot/minerals/permitt_forms.html</a> under form MR-LMO.	aa	
2		Please submit a cultural resource survey report as part of the application. The Division will need this report to make a determination whether there are any cultural resources found on the proposed site and whether they would be adversely affected. This information and determination will be forwarded to the State Historic Preservation Office for concurrence.	aa	
3	General comment	Many comments listed below (lah) are related to the cross sections included behind the tab "Exhibit 5." Cross sections need to be dimensioned to reinforce written text. Comments written below note the different inconsistencies and sheet/page notations indicate the locations of inconsistencies.	lah	

**R647-4-104 – Operator Information and Surface and Mineral Ownership**

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
4	Pages 3,4 & Exhibit	Ownership information on pages 3 and 4 does not match the information on Exhibit 1. Adjacent land owners are shown in	pbb & lah	



	1	the text as the estate of James T. Jensen and the BLM, but the BLM lands are not shown on Exhibit 1. Also, the text does not differentiate between surface and mineral ownership of adjacent lands.		
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### **R647-4-105 - Maps, Drawings & Photographs**

#### **General Map Comments**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
5	All Maps	The maps all use a notation scale rather than a bar scale. Please use a bar scale so the scale is still correct if a map is reproduced.	lah	
6	Omission—General Location Map	Please include a USGS 7.5-minute map or equivalent that shows the location of the location of the mine in relationship to known geographic locations, such as towns and other known locations. A USGS topo map can be reduced and printed on an 11-inch by 17-inch sheet.	whw	
7	Exhibit 1	Page 4 under 105.1 (b) contains a long list of features, but none of the features are listed on the legend in the exhibit. If a feature does not exist, note in the text that the feature does not exist. As the maps and text were submitted, the lack of proper documentation is an omission. The maps and text need to be consistent.	lah	
8	Page 4 Exhibit 3	Under item (e) at the bottom of the page, the plan indicates areas to be reclaimed through the life of the operation are shown on Exhibit 3, but no reclamation is shown on Exhibit 3. Please be consistent and either add reclamation to Exhibit 3 or change the text.	lah	
9		Please include a topographic map with contours of either two or five feet that show the existing site, the site at maximum disturbance and the site at final reclamation. R647-4-105.3.18	whw	
10		Please include cross sections that show the existing site, the site at maximum disturbance, and the site at final reclamation. R647-4-105.3.18	whw	
11	Exhibit 1	Please show the areas of future expansion on the land ownership maps.	whw aa	
12	Exhibit 2	The plan view schematic exhibit needs more detail to show how impacts to surface water will be controlled. Specifically, add details on the stream crossing (culvert size, riprap details etc), the rock lined overflow and dimensions of the berm (dimensions, material gradation) (typo - burm). Silt fences are typically long term maintenance	lah	



		problems; the Division suggests using stone check dams properly sized and properly placed for roadside ditches.		
13	Exhibit 5	The reclamation map shows the access road on the map. The information contained in Section 110 states that all mine-related roads are to be reclaimed. If so, this map should not show the access road. Please correct this discrepancy.	aa	

### 105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
14	Text page 5 Exhibit 3 and 4	On page 5 under 105.2 (a) and (b) is a long list of features, but none of the features are listed on the legend of the exhibit. If a feature does not exist, note in the text that the feature does not exist. As currently shown and written the lack of proper documentation is an omission. The maps and text need to be consistent.	lah	
15	Text page 5 and 6 Exhibit 5	On page 5 and 6 under 105.3 (a), (b), (c), and (d) is a list of features, but the features are not listed on the legend of the exhibit. If a feature does not exist, note in the text that the feature does not exist. As currently shown and written the lack of proper documentation is an omission. The maps and text need to be consistent.	lah	
16	Omission	The second exhibit behind the Exhibit 5 tab does not have enough detail to make engineering calculations. It is not known what area of the mine this cross section would represent. The depth of the pit is unknown, and no volumes have been completed. Inclusion of dimensions on this exhibit and showing the locations of cross sections on a plan view will help explain the text. Please ensure there are no inconsistencies between the text and the maps.	lah	
17	Exhibit 5	The existing facilities map did not include information on elevation, highwall height, or berm size. Please add these dimensions. R647-4-105.3.12	aa	
18	Exhibit 3	The future development map did not show any surface facilities. Will all the product, stockpiles, and equipment be staged on the existing disturbance shown on Exhibit 2? Topsoil piles only were shown on Exhibit 4. R647-4-105.2.11	aa	
19	Exhibit 13	The geology map was not labeled with features such as north arrow, scale, and geologic units. Please include a legend explaining the geologic units. Only one unit, TKFN, was listed, but there are three units portrayed on the map.	aa	
20	Photos	Photographs should be clearly marked to show the locations, orientations, and dates the photos were taken.	aa	
21	Omission	Please provide a map showing how surface water runoff will be	aa	



		managed in and around the disturbance areas. This map should be included with the storm water management plan and can include structures such as sediment ponds, diversion channels, and culvert sizes and locations. Some sediment control structures were noted on one of the exhibits but no ditches were shown to illustrate how storm water will be addressed.		
22	Page 6	Variances are referenced on page 6, but page 17 indicates no variances are requested. Please either delete the note on page 6 or provide documentation for variances if page 17 is a typo.	lah	

#### **R647-4-106 - Operation Plan**

##### **106.2 - Type of operations conducted, mining method, processing etc.**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
23	106.2	Please include information whether any deleterious or acid-forming materials will be left on site as a result of mining. Refer to the "Deleterious Materials" regulatory definition in R647-1-106.	aa	
24	page 6	More detail is needed about the mining operations. Include a list of crushing and hauling equipment to be used. The Division needs this information to verify surety calculations.	lah	
25	page 6	More detail is needed on blasting, particularly regarding public safety and proximity to the railroad, the US Highway and associated landslide structures and power lines.	lah	

##### **106.3 - Estimated acreages disturbed, reclaimed, annually**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
26	page 7	Please include more detail about how many acres will be disturbed annually and include this on appropriate maps.	lah	
27	Pages 6-7	Please provide a more clear estimate as to when concurrent reclamation will begin; "15 - 20 acres" is a wide spread on a 32-acre site.	lah	

##### **106.4 - Nature of materials mined or processed, waste and estimated tonnages**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
28	page 7	Cross sections are needed to verify section 106.4.	lah	
29	page 7	Provide more information on tailings, particularly the size fractions, as this will determine how and what is to be done with the reject material, under the reclamation plan.	lah	
30	page 7	The estimate notes the product is only five feet thick, so the Division assumes the mine will be between five and seven feet deep. Confirm	lah	



		whether this is correct or make appropriate changes to the plan.		
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#### 106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
31		While the NRCS does not have a specific soil survey for the area, It is believed that there is sufficient data provided by Ron Kass to document that there is topsoil available (limited as it may be), and that it is suitable for reclamation. At this time, the Division will not require additional soil data for permitting.	lk	

#### 106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
32	Page 7	The operator has committed to salvage 26,000 yds <sup>3</sup> of topsoil, which is an average of six inches over the entire site. Please include a commitment to salvage "suitable soil material" (R647-4-107.6), including greater depths of soil if it is available.	lk	

#### 106.7 - Existing vegetation - species and amount

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
33	Exhibit 7	The text says the vegetation report is in Exhibit 7, but the report is not labeled with an exhibit number.	aa	

#### 106.8 - Depth to groundwater, extent of overburden, geology

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
34	Omission	Please provide a geologic cross section.	lah	

#### 106.9 - Location & size of ore, waste, tailings, ponds

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
35	106.9	The plan states that sheet flow will come into the pit from higher elevations. The Division recommends that this surface flow coming from upgradient areas be rerouted around the disturbance areas using ditches to convey this runoff. These diversion ditches should be illustrated on a map showing hydrologic structures and drainage controls.	aa	
36	page 10	The text says no waste will be generated, but the table on page 7 notes tailings and reject. Please clarify which is correct and be consistent in the text.	lah	
37	page 10	Provide cross sections noted in above comments to support drainage details noted in the text.	lah	



38	page 10	Please clarify the statement that "...rows of rock will be spread below the pit...". It is not clear where the check dams will be placed; perhaps adding the proposed locations to an Exhibit would clarify 'below the pit.' Figure 2 has a few features for the current disturbances, but more detail is needed for the planned disturbance.	lah	
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#### **R647-4-109 - Impact Assessment**

##### **109.1 - Impacts to surface & groundwater systems**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
39	page 11	The text notes that the quarry floor will be at an elevation of 7200 feet, but this is not consistent with the elevations shown on the topographic map and at least five feet of product and overburden. As noted above, please provide cross sections to delineate the pit bottom, and modify the text as needed to be consistent throughout the document.	lah	
40	page 11	Commit to secondary containment for petroleum products.	lah	
41	page 11	Commit to the proper use of explosives to avoid excess nitrates.	lah	
42	Omission	Add a storm water map with topographic contours, as a single storm water map will negate the need for much of the verbal descriptions in the text. The Division recommends adding a sump in the northeast corner of the current pit to limit the amount of storm water that must be dealt with. The exact sump location can vary dependent upon ground conditions.	lah	

##### **109.2 - Impacts to threatened & endangered wildlife/habitat**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
43	109.2	Commitments to the Utah sage grouse management plan were not addressed in the plan. An on-site meeting was held on April 8, 2014, between the Division, Nielson Construction, and the Utah Division of Wildlife Resources biologist, Brad Crompton, at where it was determined that the mine is located a sage grouse management area. Mr. Crompton indicated, however, that the specific area of the mine had conditions that were not ideal sage grouse habitat due to the presence of scattered juniper trees and overhead transmission lines. Nevertheless, Mr. Crompton suggested an avoidance plan for mining activities in May-June of each year during the sage grouse nesting period. He also suggested a seed mix that was forb-heavy. The Division asks that the operator voluntarily include a commitment in the mine plan to avoid mining during the May-June nesting period. A suggested seed mix is included with this review.	aa	



**109.3 - Impacts on existing soils resources**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
44	106.5 and 106.6	Section 106.5 indicates 26,000 cubic yards of soil will be salvaged, but the figure shown in Section 106.6 is 19,000 cubic yards. Please correct or explain the apparent discrepancy.	whw	

**109.4 - Slope stability, erosion control, air quality, safety**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
45		Clarify slope stability based on cross sections. Commit to maintain an adequate factor of safety.	lah	

**R647-4-110 - Reclamation Plan****110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
46	Section 106.2 Section 110.2	In Section 106.2 the plan says hoe rams will be used to break up the limestone seam or possibly explosives. The plan says in Section 110.2 that all highwall slopes will be left at 3H:1V or less and that there will be no backfilling in the quarry except for replacement of topsoil. The reclamation cost estimate does not mention use of a hoe ram to reclaim the highwalls. Please state in the reclamation plan how highwalls will be reclaimed and include those costs in the reclamation cost estimate.	whw	
47	page 15	Paragraph 4 notes the "pit area returned to sheet flow." Please rewrite to state that berms and ditches will be reclaimed only after vegetation is established and all erosional issues have remediated.	lah	

**110.5 - Revegetation planting program**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
48	Page 16	The proposed seed mix is lacking in both forbs and shrubs and is therefore is not appropriate for final reclamation. Attached is a recommended seed mix that would meet the goals of a sustainable permanent vegetation cover, as well as provide for the post mining land use of grazing and wildlife habitat (with emphasis on sage grouse habitat). Please acknowledge that this mix is acceptable by including it in reclamation plan, or provide another mix that would meet these goals.	lk	

**R647-4-112 - Variance (List all variances requested and make a finding if approving.)**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
49		No variances were requested, so no further action is needed.	lah	



**R647-4-113 – Surety**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
50	Exhibit 10	Please include the following indirect costs: 5% start up cost (includes performance bond and permits), 2.5% project management (cost for the Division to administer the project), 2.5% engineering redesign (cost to have a third party prepare a bid document), main office expense (indirect cost that the Division incurs when administrating the contract), and a 10% contingency fee.	whw	
51	Exhibit 10	Please include an escalation rate of 1.9% per year for five years.	whw	
52		Please include in the text or in Exhibit 10 a description of the area of maximum disturbance and how that it relates to the reclamation cost estimate.	whw	
53	Exhibit 10	Please include the direct cost estimates for removing equipment from the site. The Division has encountered situations where it had to remove equipment left behind.	whw	



Recommended Revegetation Species List  
for

**Nielson Construction**  
**Emma Park Limestone Pit**  
S/049/093

Prepared by DOGM August 2014

<u>Common Name</u>	<u>Species Name</u>	<u>*Rate lbs/ac (PLS)</u>
Intermediate wheatgrass	<u>Agropyron intermedium</u>	1.5
Bluebunch wheatgrass	<u>Agropyron spicatum</u>	1.5
Sheep fescue	<u>Festuca ovina</u>	0.5
Sandberg bluegrass	<u>Poa sandbergii</u>	0.5
Indian ricegrass	<u>Oryzopsis hymenoides</u>	1.5
Pacific aster	<u>Aster chilensis</u>	0.1
Lewis flax	<u>Linum lewisii</u>	1.0
Cicer milkvetch	<u>Astragalus cicer</u>	1.5
Yellow sweetclover	<u>Melilotus officinalis</u>	0.25
Small burnet	<u>Sanguisorba minor</u>	1.0
Palmer penstemon	<u>Penstemon palmeri</u>	0.5
Western yarrow	<u>Achillea millefolium</u>	0.1
Mountain big sagebrush	<u>Artemisia tridentata vaseyana</u>	0.15
Forage Kochia	<u>Kochia prostrata</u>	0.5
Serviceberry	<u>Amelanchier alnifolia</u>	1.0
Blue elderberry	<u>Sambucus caerulea</u>	1.0
Total		13.1 lbs/ac

**\*recommended broadcast seeding rate.**